

Appl. No. 10/612,548
Amtd. Dated November 15, 2005
Reply to Office Action of 08/25/2005

REMARKS

Claims 1-20 and 22 are currently pending. Claims 1-12 are allowed. Claims 13 – 20 are rejected and claim 22 is objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim.

The Office incorrectly notes that the present application has joint inventors. Applicant respectfully submits that there is a sole inventor in this application.

Applicant wishes to thank the Office the thorough office action and allowance of the claims 1-12. The arguments and amendments of claims 13 and 14 herein should place all claims in condition for allowance.

Claim Rejections – 35 USC § 103

The Office has quoted the statute from 35 USC 103(a), which is referenced herein. The Office has rejected 13-20 are rejected as being unpatentable over Yokomachi et al. (U.S. Pat. No. 5,483,608) in view of other Helmer (U.S. Pat. No. 3,885,205). Applicant has carefully considered the Office rejections and respectfully submits that the amended claims, as supported by the arguments herein, are distinguishable from the cited reference.

According to the MPEP §2143.01, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found in either the references themselves or in the knowledge generally available to one of ordinary skill in the art."

A useful presentation for the proper standard for determining obviousness under 35 USC §103(a) can be illustrated as follows:

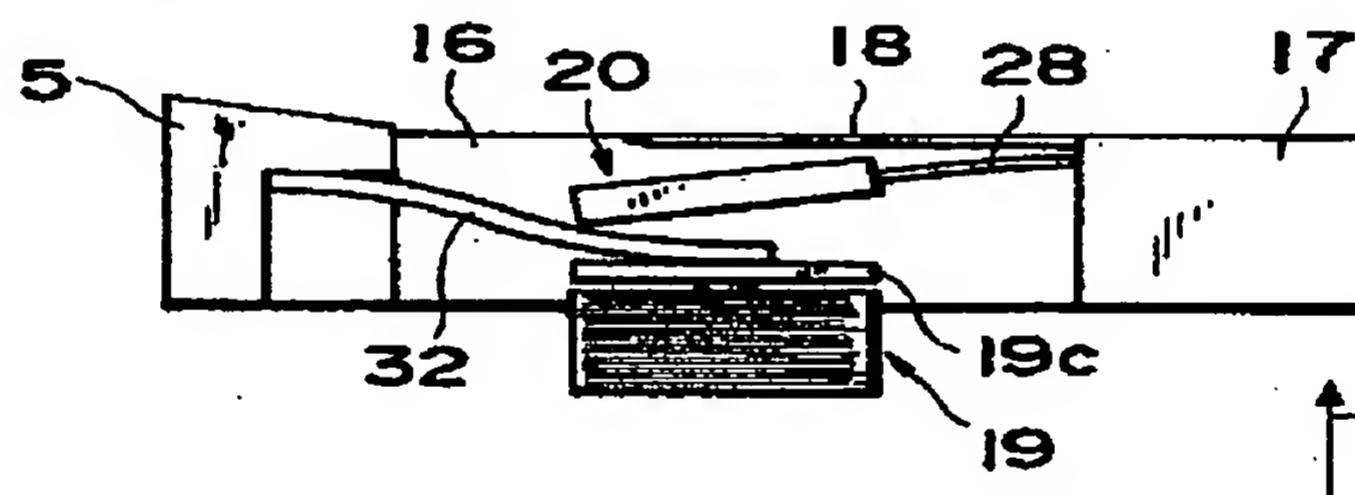
1. Determining the scope and contents of the prior art;
2. Ascertaining the differences between the prior art and the claims at issue;
3. Resolving the level of ordinary skill in the pertinent art; and

Appl. No. 10/612,548
 Amdt. Dated November 15, 2005
 Reply to Office Action of 08/25/2005

4. Considering objective evidence present in the application indicating obviousness or unobviousness.

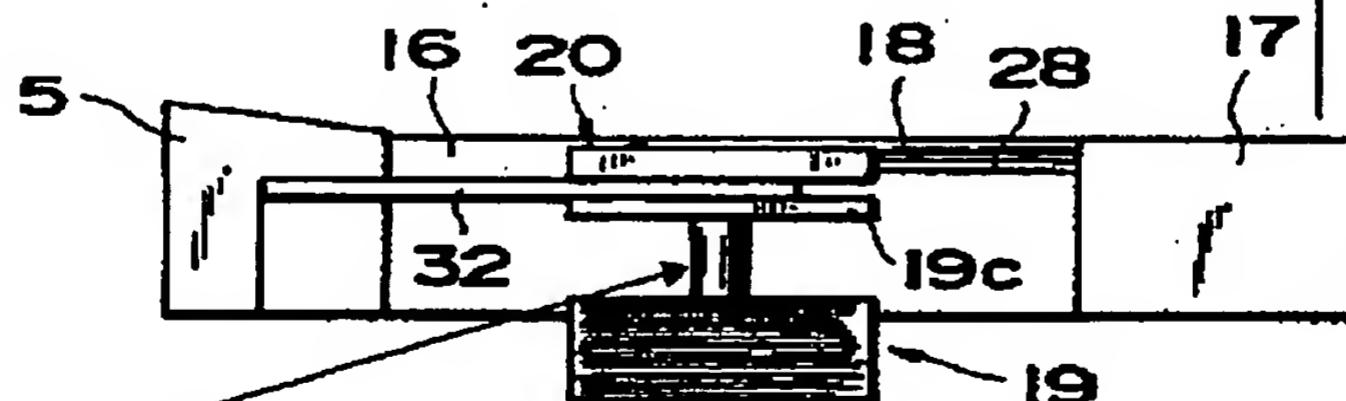
As previously noted in the prior Office Action Response, Yokomachi employs an actuator 19, wherein the actuator 19 is driven by coil 19a and is moved upwards/downwards to push the elevating stage 20 from a stowed position (Yokomachi Fig. 15) to the deployed position (Yokomachi Fig. 16). For convenience, Figures 15 and 16 are included here to show that the deployment mechanism from the actuator is a single axis movement – up or down in that example. The elevating stage 20 is coupled to the stationary body 17 by a leaf spring 28 and the elastic body 32 is an interface between the permanent magnet 19c and the stage 20. The stage 20 resides in the stowed position (Yokomachi Fig. 15) until the actuator 19c pushes the stage 20 upwards using the rod 19b.

Fig. 15



Platform 20 moves up/down when pushed by portion 19c.

Fig. 16



Rod 19b – see Fig 4 – moves 19c up/down

Appl. No. 10/612,548
 Amdt. Dated November 15, 2005
 Reply to Office Action of 08/25/2005

In the present application as shown in Fig. 1a which is included herein for convenience, the motor assembly 109 rotates a motor shaft 109a/b and provides a rotational torque that drives the push/pull spring 111 to push/pull the platform 103. The push/pull spring 111 in conjunction with the motor 109 pushes or pulls the platform 103 to the stowed or deployed positions along the pivot axis of rotation 101. Yokomachi does not describe movement of the platform in this fashion.

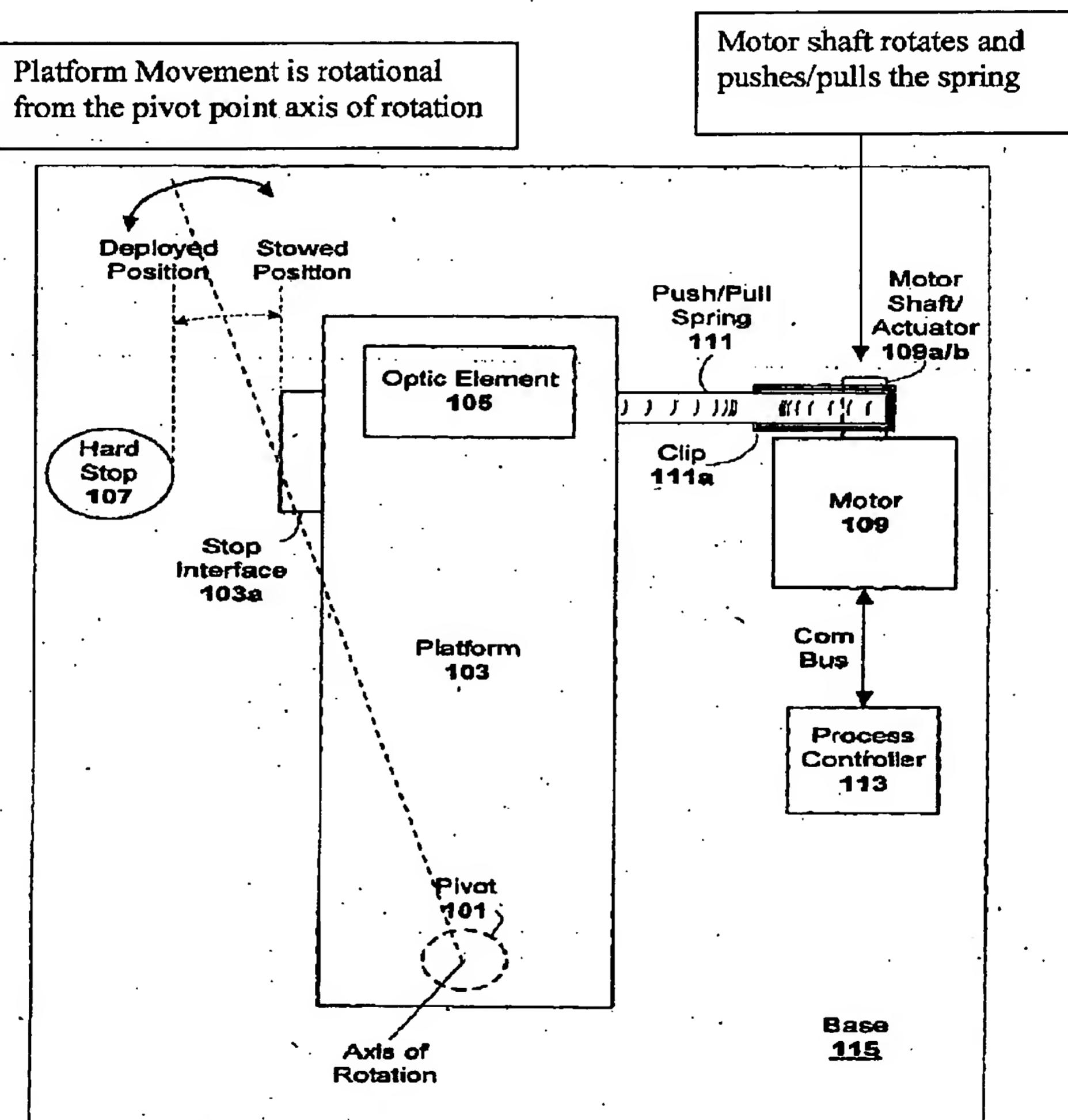


Fig. 1a

Appl. No. 10/612,548
Amtd. Dated November 15, 2005
Reply to Office Action of 08/25/2005

The Office states that the Yokomachi platform 20 pivots about an "axis of rotation." This is not correct. There is no 'axis of rotation' in Yokomachi related to moving the elevating stage 20 by the actuator 19 from the stowed position to the deployed position based on the rotation of the elevating stage about a pivot point. The leaf spring 28 couples between the stationary block 17 and the stage 20 – there is no rotation of any of these elements. The up/down movement of Yokomachi does not involve any rotation. There is no 'axis of rotation' described or considered by Yokomachi as there is no rotation about any pivot point. The axis of rotation is described in the present application requires rotation of the platform which is further clarified in the amended claims. These clarifications are clearly reflected by the term "axis of rotation" and do not impart any aspects requiring a further search.

In addition, the Office also tries to equate the push/pull spring of the present invention with the elastic body 32 of Yokomachi. "[T]he elastic body 32 is made of a material having flexibility, e.g., rubber or plastic, to have a plate-like shape. The elastic body 32 projects from the lower surface of the displacement stage 5 opposing the elevating stage 20 to extend in an inclined state such that it flexes only in the vertical direction, and is arranged on the permanent magnet portion 19c of the actuator 19. When the elevating stage 20 is to be moved upward, the elastic body 32 is sandwiched between the lower surface of the elevating stage 20 and the permanent magnet portion 19c, and fixes the position of the displacement stage 5 in the horizontal direction." (Yokomachi Col 15, lines 31-43)

As is readily apparent – the elastic member 32 does not operatively couple the actuating element 19 to the stage 20. The interaction with the stage 20 is caused by the movement of the actuator 19 and when the stage is deployed, the elastic member 32 is sandwiched between the stage 20 and the actuator 19. The elastic member 32 does not operatively couple the platform to a motor assembly in a preloaded position against the hardstop – the elastic member 35 interacts with the actuator 19 and the actuator pushes the stage 20 – the elastic member does not push the stage or place the stage in the preloaded state.

Appl. No. 10/612,548
Amtd. Dated November 15, 2005
Reply to Office Action of 08/25/2005

In addition, it should be noted that in Yokomachi, the permanent magnet portion 19c is a movable element that is pushed by the rod 19b. The magnet portion 19c is not a hard stop. A hard stop is a fixed component that would stop the movement of the platform, but the permanent magnet portion 19c in Yokomachi is used for pushing the elevating stage. Hence, the permanent magnet portion 19c in Yokomachi is not a fixed component to stop movement and does not function as a hard stop.

For at least these reasons discussed herein, the rejection is traversed and allowance of all claims is respectfully requested.

The Office acknowledges that Yokomachi does not describe a rotating motor assembly, and cites Helmer to introduce such a feature. Helmer describes a controlled rotor motor that rotates an axis 46' in a controlled manner. The rotating axis 46' has certain torque and speed design criteria with the overall purpose to apply torque to the axis 46'. The Office states that it would be obvious to include Helmer's rotational motor to improve the actuator of Yokomachi. However, such a design is certainly not obvious. Referring to Fig 15 and Fig 16 of Yokomachi referenced herein, the actuating element 19c moves upwards to push the permanent magnet 19b upwards to the deployed position. See Yokomachi Fig 5 for an illustration of the actuator assembly 19. The actuator assembly 19 and the associated mechanisms for elevating the stage of Yokomachi are described in detail. There is no reference to the use of a rotating motor assembly to replace the actuator – and there is no indication as to how one would invent such an implementation. Merely replacing the actuator 19 of Yokomachi with the Helmer rotating motor would make Yokomachi inoperable. Once again, the rejections are traversed for at least the reasons discussed herein.

Official Notice

The Applicant disagrees with the Examiner's official notice whereby the Office alleges that it would have been obvious to modify the magnetic actuator assembly of Yokomachi with a

Appl. No. 10/612,548
Amdt. Dated November 15, 2005
Reply to Office Action of 08/25/2005

rotating motor. If it were obvious, then it should be easy to find a reference that suggests modifying the cited references to include the rotating motor operatively coupled to a platform via a push/pull spring as recited in claims 13 and 14. Examiner is kindly reminded that “assertions of technical fact in areas of esoteric technology must always be supported by citation of some reference work” and “allegations concerning specific knowledge of the prior art, which might be peculiar to a particular art should also be supported.” MPEP § 2144.03. The Applicant notes that a reference that merely discloses or suggests the general concept of rotating motors is not sufficient to establish a prima facie case of obviousness. Rather, the reference or references must disclose or suggest a rotating motor coupled to a push/pull spring and moving a platform as defined by the Applicant’s claims 13 and 14.

Improper Combination:

Moreover, the Applicant respectfully submits that this is an improper combination of references, in that, when taken as a whole, there is no motivation or suggestion to combine the references to achieve the Applicant’s claimed invention. Section 2143.01 of the MPEP states: “The mere fact that references can be combined or modified is not sufficient to establish prima facie obviousness.” In addition, the “level of skill in the art cannot be relied upon to provide the suggestion to combine references.” Thus, it is inappropriate to use the Applicant’s claims as a road map in selecting a combination of references to form a 103 rejection. Rather, there must be some objective reason to combine the teachings of the references to make the claimed invention. Applicant cannot find such an objective reason.

Rotating motors were known at the time of Yokomachi, yet Yokomachi describes an actuator assembly that elevates the stage using a magnetic actuator with a moveable shaft. The Helmer reference for a rotating motor coupled to the shaft would only cause the shaft to rotate. Thus, such a combination would make Yokomachi inoperable. And, while there may be some further research and design of another inventive mechanism to combine the two references – such speculation is not the proper grounds for a combination.

Appl. No. 10/612,548
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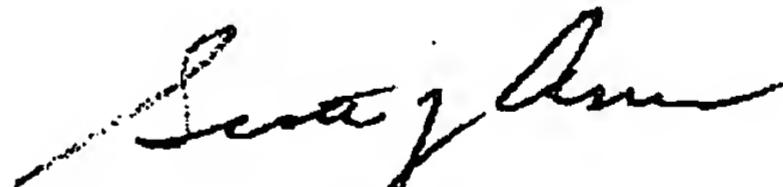
Claims 13 and 14 of the present application are independent claims. The argument and clarifying amendment of claims 13 and 14 traverse the rejections. Reconsideration and allowance of claims 13 and 14 is respectfully requested, and reconsideration of claims 15-20 and 22, which depend on claims 13 and 14, is therefore also requested. As noted, claims 1-12 are allowed.

Telephone Interview

Present Office policy places great emphasis on telephone interviews initiated by the examiner. For this reason, it is not even necessary for an attorney to request a telephone interview. However, Applicant would greatly appreciate the opportunity for a telephone interview and feels the call will be beneficial to advance prosecution of the application. MPEP§408.

Applicant believes the above amendments and remarks to be fully responsive to the Office Action, thereby placing this application in condition for allowance. No new matter is added. Applicant requests speedy reconsideration, and further requests that Examiner contact its attorney by telephone, facsimile, or email for quickest resolution, if there are any remaining issues.

Respectfully submitted,



Scott J. Asmus, Reg. No. 42,269
Andrew P. Cernota, Reg. No. 52,711
Attorneys/Agents for Applicant

Cus. No. 42716
Maine & Asmus
PO Box 3445
Nashua, NH 03061-3445
Tel. No. (603) 886-6100, Fax. No. (603) 886-4796
patents@maineandasmus.com